

find in Germany nowadays. It shows that the school which would regard the æther as a mere "physical space" has not yet captured all the Continental seats of learning. The further volumes are to appear at the rate of two per annum, and the list of forthcoming essays is distinctly attractive.

DISJUNCTIVE GEOGRAPHY.

A Systematic Geography of America. By G. W. Webb. Pp. viii+108. (London: Methuen and Co., Ltd., n.d.) Price 1s.

"THIS book—the fourth of a series of five—deals with the geography of the New World. As in the previous volumes, the treatment of the subject is on logical and modern lines, and the book will be found to contain the kind of information that candidates preparing for fairly advanced examinations in geography are now expected to acquire." Instances of the absence of modernity in the treatment are striking; for example, the rain of California is attributed to the north-east trades, without mention of its characteristic winter maximum, and in disregard of Buchan's maps on wind directions.

The space devoted to Argentina is the same as that given to Peru, and but one-quarter of that given to Canada. In view of the information which is accessible in the "Statesman's Year Book," the "Atlas of the World's Commerce," and the publications of the United States Government, the treatment of minerals in Mexico, the reference to cotton ports and to the trade of the United States ports on the Pacific, as well as the arbitrary division between the "wheat" and "maize" belts by lat. 42° N. are curious, and, on the whole, misleading. Mexico is first as to the production of silver, and produces copper, but not iron and tin to any extent.

Much is made of "Sea-island" cotton, but the total production of that variety is, roughly, 1/200th of the United States cotton crop, and stress is laid upon Mobile, Wilmington, Charleston, and Pensacola as cotton ports when really about three-quarters of the cotton exports go from Galveston, New Orleans, Savannah, and New York. On the Pacific coast Portland is suggested as of more importance than the ports on Puget Sound, when its trade is roughly only about one-third of that of the more northern ports. There seems hardly any excuse for the limitation of the "wheat" belt by latitude, especially as Wisconsin is named in large type, and the fact that in relation to area of land in the respective territories Pennsylvania is more important than Michigan is ignored.

On the whole the book contains many isolated facts, but surely modern ideas in geography demand a statement of facts in relation to each other; e.g. climate is discussed in an introductory chapter, and on the "wheat" belt the author writes:—"The winters in this region are very cold; the summers are warm, but not warm enough to ripen maize"; yet S. Dakota, Minnesota, Wisconsin, and Michigan produce annually over 200 million bushels of maize on the average. It appears that the defects are due to indiscriminate use of statements made in other textbooks.

B. C. W.

NO. 2165, VOL. 86]

OUR BOOK SHELF.

Laboratory Notes on Organic Chemistry for Medical Students. By Dr. Paul Haas. Pp. viii+128. (London: Macmillan and Co., Ltd., 1910.) Price 2s. 6d. net.

It is generally recognised that a knowledge of organic chemistry is becoming more and more essential for the proper study of physiology and the medical sciences, but, on the other hand, the complaint is frequently heard that the curriculum of the medical student is becoming seriously overcrowded, and that science work is encroaching too far on the more professional studies.

The new syllabus of the second medical examination, part i., of the London University is the result of a compromise between these two points of view, and an attempt is being made to teach organic chemistry with special reference to its applications in physiology, pharmacology, and pathology, and while giving a sound elementary knowledge of the principles of the subject to illustrate them as far as possible by means of substances of importance in the animal economy.

The book under review covers the practical syllabus of the above examination, and we may say at once that it is a good book, though it suffers from the defects inherent in any work written for so special a purpose. The first half of the book contains a lucid and thoughtful account of the general methods of organic chemistry, illustrative methods of preparation, and the various quantitative exercises mentioned in the syllabus. The second half is devoted to qualitative tests for a number of substances of physiological importance; and the practical recipes for preparing these substances, many of which are expensive and difficult to obtain in the market, will be found exceedingly useful, particularly by those teachers who may not be specially familiar with biochemical methods. A sufficient account of the theoretical principle underlying the various exercises and tests is given, and, where possible, the bearing of the subject on the future work of the student is emphasised, so that he may realise that chemistry is not to be regarded merely as an examination subject, but rather as a valuable adjunct to his knowledge for the fuller appreciation of his clinical and other studies. The book will, we think, be useful both to students and teachers.

Die Kälte: ihr Wesen, ihre Erzeugung und Verwertung. By Dr. H. Alt. Pp. v+124. (Leipzig: B. G. Teubner, 1910.) Price 1.25 marks.

THIS little book is based upon a series of six lectures delivered in München during 1907 by the author. Dr. Alt has endeavoured to popularise the subjects of the production of cold and the physics of low temperatures so as to render them both interesting and useful to the beginner. No special knowledge of this particular branch of physics is assumed; a general intelligence and interest in natural phenomena is all that is expected of the reader. With this in view the author devotes the first two chapters to matter which finds a place in almost any elementary treatise on heat. In the first chapter the properties and laws of gases are discussed, and in the second, those of vapours, both being obviously necessary preliminaries to the appreciation of the remaining sections of the book.

The production of cold by means of the reversed heat-engine, together with descriptions of the various types of refrigerator, form the subject of the next chapter; the remaining three are concerned with the question of the liquefaction of gases. The different processes by which liquefaction has been secured are described in chronological order, starting with the earlier regenerative process and leading up to the

methods by which hydrogen and helium have been liquefied by means of various improvements. Attention is directed in the concluding chapter to the many uses, both in the laboratory and commercially, to which low temperatures may be applied, such as the separation of the various ingredients of air by fractional distillation.

Most of the important points in connection with the production and applications of cold are to be found, treated in an elementary and lucid manner, in this book, which should serve admirably the purpose intended by its author.

Was die meisten Amateur- und manche Fachphotographen nicht wissen: Ein Handbuch praktischer Ratschläge und Erfahrungen. By Prof. F. Schmidt. Pp. xiii+175. (Leipzig: Verlag Otto Nemnich, 1911.)

THE author finds that amateurs and even expert photographers often fail to take the trouble to understand their work, and are ignorant, not only of the principles upon which it is founded, and which are therefore the only safe guides to its successful application, but also of many simple practical and commercial facts concerning it. So he has prepared this volume in sections varying in length from a line or two to a page or two, each with a conspicuously printed heading indicating the subject treated. The arrangement is exactly the old style of question and answer, except that the question is put in the form of a statement or title, such as "What a landscape lens is," "When one may dilute the developer," and so on. The information is generally of the kind that would be called elementary, tending in parts perhaps to be too superficial, and may be accepted as evidence that even in Germany, where education is so well systematised, the general knowledge concerning so common an applied science as photography is behind the needs of the times. Many convenient and some apparently novel methods are given, as, for example, to facilitate necessary calculations. A drawback to the book from the point of view of the English reader is that in the lists of makers of different kinds of lenses, sensitive materials, &c., although there are included some little-known German firms, English firms appear to be ignored altogether.

The Fauna of British India, including Ceylon and Burma. Published under the authority of the Secretary of State for India in Council. Edited by Dr. A. E. Shipley, F.R.S., assisted by G. A. K. Marshall. Rhynchota. Vol. v., Heteroptera. Appendix by W. L. Distant. Pp. xii+362. (London: Taylor and Francis; Calcutta: Thacker, Spink and Co.; Berlin: R. Friedländer and Son, 1910.) Price 10s.

IN this supplementary volume, Mr. Distant describes a large number of species which have recently come into his hands, but most of which have already been described in advance of the present work in the *Annals and Magazine of Natural History*, the *Annales de la Soc. Ent. de Belgique*, &c.; and thus he completes his work on the Indian Heteroptera. This volume extends from the family Lygæidæ to the family Corixidæ, and we are informed that "A further volume, which will form an appendix to the Homoptera, will complete the enumeration of the Indian Rhynchota, with the exception of the families Psyllidæ, Aphididæ, Aleurodidæ, and Coccidæ." The species here described extend from Nos. 2769 to 3135, and are illustrated by 214 excellent illustrations in the text. The first page is devoted to controversial questions of nomenclature, and a few bibliographical notes.

Nigeria and its Tin Fields. By A. F. Calvert. Pp. xvi+188+259 plates. (London: Edward Stanford, 1910.) Price 3s. 6d.

THIS book is intended to provide information concerning Nigeria, to which special attention has recently been directed by the revelation of vast alluvial tin deposits in the province of Bauchi (northern Nigeria). The author discusses the present means of communication, the possibility of railway development, and the character of tin deposits, which are situated about 3000 to 4000 feet above sea-level. He states that it is estimated that the tin deposits are scattered over an area of about 2500 square miles, that the tin produced is considered to be some of the best ever imported into Europe, and that it commands a price equal to, if not higher than, that of the Straits tin. Details are given of the companies which are at work, and the new mining regulations are stated in full. One interesting feature of the book is the large number of illustrations, which are collected together at the end.

Mathematical Papers for Admission into the Royal Military Academy and the Royal Military College for the Years 1905-10. Edited by E. J. Brooksmith and R. M. Milne. Various papers, separately pagged. (London: Macmillan and Co., Ltd., 1911.) Price 6s.

THE editors have provided answers to the questions set during the past six years for candidates seeking admission to the Royal Military Academy and College. Teachers whose duty it is to prepare candidates for these examinations should find the publication a convenience.

Huxley and Education. By Prof. H. F. Osborn. Pp. 45. (New York: Charles Scribner's Sons, 1910.)

PROF. OSBORN's address at the opening of the college year at Columbia University last September is here printed in the form of a book for the pocket. Some of his remarks remind one of the aphorisms of his old master, Huxley. To quote one example:—"Do not climb that mountain of learning in the hope that when you reach the summit you will be able to think for yourself; think for yourself while you are climbing."

William Ford Stanley. His Life and Work. Edited by Richard Inwards. Pp. 82. (London: Crosby Lockwood and Son, 1911.) Price 2s. 6d. net.

THE first five chapters of this book are autobiographical, and in the remaining four the editor gives an interesting account of the late Mr. Stanley's active life. There are two appendices, the first being an article on technical trade schools, which was the last paper written by Mr. Stanley, and the second the events in Mr. Stanley's life arranged in chronological order. The book will be interesting to many readers.

Die Elemente der Entwicklungslehre des Menschen und der Wirbeltiere. By Prof. O. Hertwig. Vierte Auflage. Pp. viii+458. (Jena: Gustav Fischer.) Price 9.50 marks.

THE first edition of this work on the leading facts of embryological science was noticed in *NATURE* of April 26, 1900 (p. 610). The work has been enlarged by about fifty pages, and there are now 399 figures instead of the 332 in the original edition. For students familiar with the German language, the volume provides an excellent introduction to embryology.